

REMARKS

This application has been amended in a manner to place it in condition for allowance.

**Status of the Claims**

Claims 1, 13 and 20 are amended to clarify the meaning of blackening treatment in a manner consistent with the specification.

Claims 1, 13, and 20 now recite that the blackening treatment is by anode electrolysis or anodization. Support for this recitation may be found, for example, at page 10, lines 18-24 of the present application where anode electrolysis and alternating electrolysis are described as blackening treatments. The prior art "blackening treatments" are also noted as anode electrolysis and alternating electrolysis in the paragraph bridging pages 1 and 2.

Claims 13 and 20 are amended to recite "cracks" instead of "irregularities". Support for this amendment may be found, for example, at the paragraph bridging pages 10 and 11 which discusses irregularities formed by blackening treatment, in light of the measurement for "minute irregularities", which is expressed as "cracks" in the examples of the specification.

Claims 1-4, 6-14 and 16-20 are pending in the application.

**Claim Rejections-35 USC §103**

Claims 1-4, 6-14, and 16-20 were rejected under 35 USC §103(a) as allegedly being unpatentable over UMINO et al. WO 03/042427 ("UMINO") in view of applicant's admissions. This rejection is traversed for the reasons discussed below.

As explained in the previously filed amendment, UMINO differs from the claimed invention by at least three features:

**I. The sheet**

The claimed Zn-Ni plating steel sheets undergo a blackening treatment by anode electrolysis or anodization, i.e., as described at page 10, lines 18-24 of the specification. When a surface of a Zn-Ni plating steel sheet is subjected to such a blackening treatment, minute irregularities, or cracks are formed on the steel sheet surface. These cracks will serve as the starting point for corrosion, and this lowers the sheet's resistance to corrosion. This is explained in the paragraph bridging pages 10 and 11.

UMINO, however, discloses an "electrolytic zinc-nickel coated steel sheet". UMINO neither discloses nor suggests a blackening treatment to the sheet, and, thus, the sheet does not have the same cracks, nor the same corrosion problem, resulting from a blackening treatment.

## II. The paint composition

To solve the problem of lowered corrosion resistance, the claimed invention utilizes a paint composition with a water soluble organic resin in combination with a water dispersible organic resin. The paint composition includes at least one type of water soluble organic resin selected from the group consisting of a polymer of a monomer containing a carboxyl group and a copolymer of a monomer containing a carboxyl group with another polymeric monomer.

The UMINO reference, however, applies a paint composition onto a steel sheet surface, which includes a water dispersible organic resin.

The Official Action states that the term "soluble" is broad in scope, and that "any resin would be expected to inherently possess a finite solubility". However, the term of the claim is "water soluble". It is respectfully requested that the Examiner provide evidence showing that one of ordinary skill in the art would have understood that "any resin" would meet the claimed "water soluble" property.

The Official Action specifically mentions that phosphorylated epoxy of UMINO would be a "water soluble resin".

The monomer of the water soluble organic resin is copolymerized with or added to a (co)polymer of (meth)acrylates, an epoxy resin, an ester modified epoxy resin, a urethane

modified epoxy resin. See, e.g., the specification at page 12, lines 9-13. This is different than the teachings of UMINO.

### III. The advantageous results

The advantage of using a solution of a water soluble organic resin, i.e., a liquid state resin, is that can permeate into the cracks. As a result, after the resin has been subsequently cured through drying, a resin coating film is formed within the cracks (See, e.g., present specification, from line 2 from the bottom of page 10 to line 3, page 11). This film formation within the cracks provides the excellent corrosion resistance.

Even if one were to apply the composition of UMINO, onto a blackened steel sheet, the resin could not achieve the excellent corrosion resistance. The "dispersed" resin would be larger than the cracks.

Thus, UMINO fails to disclose or suggest the same sheets and the same paint composition, and, consequently, does not even recognize the advantageous results.

The admissions in the present specification do not remedy the shortcomings of UMINO for reference purposes. To the contrary, according to the present specification, blackening treatment results in a degradation of corrosion resistance, which could not be solved by the prior art without negatively impacting other features, such as a whitening appearance after press

molding. See, e.g., the paragraph bridging pages 1 and 2 and page 4, line 8 to page 5, line 6 of the present invention.

Thus, one of ordinary skill in the art would have been discouraged from utilizing a blackening treatment, as the prior art recognized that corrosion problem caused by the cracks formed by such a treatment could not be solved without adversely affecting other features.

Therefore, the proposed modification of UMINO does not render obvious the claimed invention, and withdrawal of the rejection is respectfully requested.

#### **Conclusion**

In view of the amendment to the claims and the foregoing remarks, this application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to our credit card which is being paid online simultaneously herewith for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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